

ACC NR: AT6036924

determine the deformation of the ceramics, as can be seen in Figs. 1 and 2. Here, III, IVa and b, and V show the highest softening temperatures and greatest bending strength at temperatures $> 1500^{\circ}\text{C}$. Despite the good strength and refractory qualities of V, this material cannot be used for any length of time in vacuo due to its excessive loss of weight. IVa and b ceramics evaporate least of all at $> 2000^{\circ}\text{C}$, but have very poor thermal stability. Materials I and II are equally valuable for their refractory and mechanical properties at high temperatures. Orig. art. has: 7 tables and 7 figures.

SUB CODE: 11/ SUBM DATE: 02Nov65/ ORIG REF: 015/ OTH REF: 007

Card 3/3

ACC NR: AP7005512

(A)

SOURCE CODE: UR/0131/66/000/011/0033/0037

AUTHOR: Poluboyarinov, D. N.; Andrianov, N. T.; Guzman, I. Ya.; Lukin, Ye. S.

ORG: Moscow Chemico-Technological Institute im. D. I. Mendeleyev (Moskovskiy khimiko-tekhnologicheskii institut)

TITLE: Evaporation of porous oxide ceramics at elevated temperatures

SOURCE: Ogneupory, no. 11, 1966, 33-37

TOPIC TAGS: oxide ceramic, porous foam, ceramic, refractory product, evaporation, porosity

ABSTRACT: The thermomechanical and thermophysical properties of refractory porous oxide ceramics have been previously investigated (Guzman, I. Ya. Zhurnal VKhO im. D. I. Mendeleyeva, 1965, t. 10, no. 5, s. 571) but the suitability of these ceramics as heat insulating materials for equipment with a high vacuum or with a neutral gaseous medium is also limited by evaporation, on which no information has previously been available. To fill this gap, specimens of Al_2O_3 , ZrO_2 , BeO and MgO ceramics with typical values of porosity, prepared both by the foam method and by the method of burnout of additives, were tested for evaporation rate in

Card 1/3

UDC: 666.764

ACC NR: AP7005512

vacuum and in a helium atmosphere at 2073-2573°K by the method described by Lukin and Poluboyarinov (Ogneupory, 1964, no. 9, s. 418) for solid ceramics (since evaporation in porous bodies is difficult to determine, in this case conditional rate of evaporation, i. e. loss of weight per unit time per unit surface determined according to external dimensions of the specimen was used as the yardstick). Findings: given equal porosity, foam ceramics have a higher apparent porosity, a much lower gas permeability and smaller unit surface area than the ceramics prepared by the method of burnout of additives. The ratio K of effective surface area S_{eff} to total S_{total} , which also includes the surface area of isolated pores, represents the part of surface area of pores from which evaporation occurs: $K = S_{eff}/S_t$. In this connection, on the basis of the obtained findings and their comparison with data on the evaporation of solid sintered specimens, empirical equations are derived for calculating the evaporation of porous pure-oxide ceramics without resorting to intricate experiments. Thus the evaporation rate of a ceramic of any porosity can be determined from the relation $G = \Delta g/S_{eff}t$, where Δg is the weight loss of the specimen, g; S_{eff} is the effective surface area, cm^2 ; t is the time of evaporation, sec. The higher the porosity and hence also the higher S_{eff} is, the greater the weight loss Δg must be. A comparison of experimental and theoretical findings on specimens of

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ACC NR: AP7005512

varying porosity shows that K is constant for all types of ceramics and depends only on the method of their fabrication, which determines the nature of their structure. Orig. art. has: 2 figures, 3 tables.

SUB CODE: 11, 20/ SUBM DATE: none/ ORIG REF: 005

Card 3/3

LUKIN, Yu., inzh.; MAKSAKOV, V.D., inzh.

Automatic cutout of broken trolley wires. Bezop.truda v
prom. 3 no.10:34 0 '59. (MIRA 13:2)
(Electric switchgear)

LUKIN, Yu.A.; BIBIKOV, G.G.

Measuring pressure drop in testing mean-pressure city gas
pipelines. Gaz. prom. 9 no.3:16-18 '64.

(MIRA 17:9)

LUKIN, Yuriy Aleksandrovich; MANIN, I.I., retsenzent; YURCHENKO, I.F., inzh., red.; KOLTUNOVA, M.P., red.; VOROB'YEVA, L.V., tekhn. red.

[Wages of the workers of electrification agencies and power-engineering enterprises; a manual] Oplata truda rabotnikov sluzhby elektrifikatsii i energeticheskogo khoziaistva; spravochnik. Pod obshchei red. I.F.Iurchenko. Moskva, Transzheldorizdat, 1962. 122 p. (MIRA 15:7)
(Electric railroads--Salaries, pensions, etc.)

IEVIN, S.R.; LUKIN, Yu.A.; BIBIKOV, G.G.; SHERSTENNIKOVA, L.K.

Determining the hydraulic resistances of operating city gas mains.

Gaz. prom. 10 no.4:20-22 '65.

(MIRA 18:5)

LUKIN, Yu. B., ^{Card}Master Biol. Sci — (USSR) "Certain physiological characteristics of productive horses, the qualities of antigens and their effect on the titration of antitetanus serum." Molotov, 1957, 13 pp, (Molotov State Med Inst), 200 copies (KL, No 40, p 92)

USSR / Microbiology. Anaerobic Bacilli.

F-6

Abs Jour: Ref Zhur-Biol., No 16, 1958, 72203.

Author : ~~L~~ukin, Yu. B.; Kovshov, A. A.

Inst : Ufa Scientific-Research Institute of Vaccines
and Sera.

Title : Comparative Evaluation of Some Methods of Intro-
duction of Tetanus Antigens in the Production of
Antitetanus Serum.

Orig Pub: Tr. Ufinsk. n.-i. in-ta vaktsin i syvorotok, 1957,
vyp. 4, 191-195.

Abstract: No abstract.

Card 1/1

CHERNENKO, M.B.; LUKIN, Yu.B.; GUSEV, K.M.; KUDREVATYKH, L.A.; MAKARENKO, Ya.I.; SATYUKOV, P.A., red.; STEPANOV, V.P., red.; SELYUK, S.I., red.; SUTOTSKIY, S.B., red.; ABALKIN, N.A., red.; KOZEV, N.A., red.; AVERCHENKO, B.Ye., red.; SOBOLEV, L.S., red.; SIMONOV, K.M., red.; POLEVOY, B.N., red.; GALIN, B.A., red.

[Heroes of our times] Geroy nashikh dnei. Moskva, Izd. gazety
"Pravda," 1961. 619 p. (MIRA 14:11)
(Labor and laboring classes)

Lukin, Yu.T. 120-4-6/35
AUTHORS: Lukin, Yu.T., Takibayev, Zh.S. and Chastnikov, I.Ya.
TITLE: An Investigation of the Distortion Produced in Nuclear
Emulsions by the Introduction of Threads into Them.
(Issledovaniye iskazheniy v yadernykh emul'siyakh, vnosi-
mykh utoplennymi nityami)
PERIODICAL: Priory i Tekhnika Eksperimenta, 1957, No.4,
pp. 27 - 29 (USSR).

ABSTRACT: There are a number of methods of introducing a material into an emulsion; 1) The emulsion may be loaded with the material in the form of a suspension when still in the liquid state (Ref.1). 2) A thin foil can be placed between prepared emulsion layers (Ref.2). 3) Thin metallic threads can be placed into the emulsion when it is still in the liquid state (Ref.3 and 4). The present work is devoted to the determination of distortions introduced into emulsions by the inclusion of thin metallic threads or filaments. 660 ± 5 MeV protons were used to irradiate emulsions with and without metallic threads and the distortion was determined by comparing the scattering of these protons in the two kinds of emulsion. At the same time, the "scattering constant" for the emulsion MIKFI (type P) which was used in the above work was also determined. This was

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120-4-6/35

An Investigation of the Distortion Produced in Nuclear Emulsions
by the Introduction of Threads into Them.

found to be equal to $27.4 \pm 1.5^{\circ}$. MeV $(100 \mu)^{1/2}$. This
value is in good agreement with the values obtained by
other authors for the widely used Ilford G-5 emulsion.
There are 1 table and 9 references, 3 of which are Slavic.

ASSOCIATION: Physico-technical Institute of the Ac.Sc. Kazakh
SSR (Fiziko-tekhnicheskii institut AN Kaz. SSR)

SUBMITTED: December 27, 1956.

AVAILABLE: Library of Congress

Card 2/2

LUKIN, Yu. T.

Distr: 4E3d

Energy spectra of nucleons obtained by splitting of tungsten and aluminum nuclei. E. G. Boos, Yu. T. Lukin, Zh. S. Takibayev, and I. Ya. Chasnikov. Vestnik Akad. Nauk Kazakh. S.S.R. 13, No. 7, 101-3 (1967) (in Russian). The investigation is concerned with the study of the energy balance when W and Al nuclei are split by cosmic rays. Primary and secondary effects have been considered. Nucleons originating from W have an av. energy of 61 m.e.v., and from Al 55 m.e.v. Tracks of π mesons were found in W and Al, although their no. was only near 1% of that of proton tracks. A. Krembeller

7-Emx

JP Rmk

LUKIN, Yu. T.: Master Phys-Math Sci (diss) -- "Investigation of the energy spectrum of recoil nucleons". Alma-Ata, 1959. 7 pp (Min Higher Educ USSR, Kazakh State U im S. M. Kirov, Acad Sci Kazakh SSR, Inst of Nuclear Phys), 180 copies (KL, No 17, 1959, 105)

LUKIN, Yu.T.; TAKIBAYEV, Zh.S.

Energy spectra of recoil nucleons from the splitting of the
nuclei of photographic emulsions. Vest.AN Kazakh.SSR 15 no.1:
78-85 Ja '59, (MIRA 12:1)
(Photography, Particle track)
(Cosmic rays)

35163

S/707/60/003/000/002/013

B117/B102

24.6700
AUTHOR:

Lukin, Yu. T.

TITLE:

Study of the energy spectrum of recoil nucleons

SOURCE:

Akademiya nauk Kazakhskoy SSR. Institut yadernoy fiziki.
Truy. v. 3, 1960. Vzaimodeystviye vysokoenergichnykh
chastits s atomnymi yadrami, 17-45

TEXT: Some theories concerning the energy distribution of recoil nucleons in the fission of emulsion nuclei by cosmic rays are discussed: evaporation theory, Serber-Goldberger model (calculation of the nucleon cascade inside the nucleus by the Monte-Carlo method), application of Messel's theory to cascades inside the nucleus, theories of multiple production of mesons and formation of low-energy particles in nucleon-nucleus collision. ✓
Theoretical and experimental investigations of energy spectra of recoil nucleons in the fission of tungsten, aluminum, and emulsion nuclei by cosmic rays, conducted by the author and other researchers in the range of 10^9 - 10^{10} ev and more, yielded the following results: In the fission of aluminum and tungsten nuclei, the energy spectra of the recoil protons are
Card 1/3

Study of the energy spectrum ...

S/707/60/003/000/002/013
B117/B102

different. In the former case, the mean energy of secondary protons which leave gray traces in the emulsion is higher than in the fission of tungsten. The result is in qualitative agreement with the concept of nucleon cascades inside the nucleus. Quantitative calculation of the number of cascades by the Monte-Carlo method (Serber-Goldberger model) yields a higher amount than the experiment. Study of secondary particles from stars produced by primary nucleons with energies above 10^{10} ev showed qualitative agreement of the experimental data with the concept of the cascade process caused in the nucleus by a primary particle. The experimentally found energy carried off by particles leaving black and gray traces proved to be smaller than the energy determined by Messel's theory of multiple production of mesons. Zh. S. Takibayev, Academician AS Kazakhskaya SSR, is thanked for attention, and Z. V. Anzon and N. P. Pavlova, laboratory assistants, for assisting with measurements. I. Ya. Pomeranchuk, L. D. Landau, A. P. Zhdanov, I. A. Adadurov, N. P. Bogachev, N. G. Birger, N. L. Grigorov, V. V. Guseva, G. B. Zhdanov, S. A. Slavatskiy, and G. M. Stashkov are mentioned. There are 11 figures, 1 table, and 57 references: 23 Soviet and 34 non-Soviet. The four most recent references to English-language publications read as follows:

Card 2/3

Study of the energy spectrum ...

8/707/60/003/000/002/013
B117/B102

N. Metropolis, R. Bivins, M. Storm, A. Turkevich, I. Miller, G. Fried-
lander, Phys. Rev. 110, 185, 1958; N. Metropolis et al. Phys. Rev. 110,
204, 1958; I. Meadows, Phys. Rev., 98, 744, 1955; W. Lock, P. March,
R. McKeague, Proc. Roy. Soc., A231, 368, 1955.

4

Card 3/3

KOBZEV, V.A.; LUKIN, Yu.T.; TAKIBAYEV, Zh.S.; TSADIKOVA, G.R.; SHALAGINA,
Ye.V.

Proton-proton interaction at an energy of 9 Mev. Zhur.eksp.i
teor.fiz. 41 no.3:747-751 S '61. (MIRA 14:10)

1. Kazakhskiy gosudarstvennyy universitet.
(Protons) (Collisions (Nuclear physics))

AMANKULOVA, D.S.; LUKIN, Yu.T.; KHARITONOVA, K.S.

Preparation of coordinate nets for studying nuclear emissions.

Trudy Inst. iad. fiz. AN Kazakh. SSR 6:101-104 '63.

(MIRA 16:10)

PAK, M.I.; LUKIN, Yu.T.

Spark counter for recording cosmic-ray particles. Trudy Inst.
rad. fiz. AN Kazakh. SSR 6:105-111 '63. (MIRA 16:10)

PAK, M.I.; YEREMENKO, Yu.A.; LUKIN, Yu.T.; TSOY, A.Kh.

Characteristics of an argon-filled spark chamber. Prib. i
tekh. eksp. 8 no.6:52-54 N-D '63. (MIRA 17:6)

1. Institut yadernoy fiziki AN KazSSR.

YEFREMEYKO, Yu.A.; LUKIN, Yu.T.; KACHENIN, A.M.; GAK, M.I.

Study of ion drifting in a Wilson chamber using a spark chamber.
Prib. i tekhn. eksp. 8 no.6:17-27 Nov '69. (MIRA 17:6)

1. Institut yadernoy fiziki AN KazSSR.

YEREMENKO, Yu.A.; LUKIN, T.I.; MAMNENKIN, A.M.; PAK, M.I.; TSOY, A. Kh.

Studying the accuracy of particle localization in a spark chamber and the ion drift in a Wilson chamber. Izv. AN SSSR Ser. fiz. 28 no.12:2075-2076 D '64 (MIRA 18:2)

1. Institut yadernoy fiziki AN KazSSR.

BABAYEV, M.K.; DENIKAYEV, R.Z.; YEMEL'YANOV, Yu.A.; ZHUKOV, Ye.I.; LUKIN, Yu.T.; MURZIN, V.S.; KHOMENKO, G.S.

Fluctuations in the number of particles in an electromagnetic shower at an energy of $1.1 \cdot 10^{11}$ ev. Izv. AN SSSR. Ser. fiz. 29 no.9:1719-1721 S '65. (MIRA 18:9)

L 4513-66 EWT(1)/EWT(m)/FCC/T/EWA(h) IJP(c) GS/CW

ACCESSION NR: AT5022839

UR/0000/65/000/000/0271/0275

36
33
041

AUTHOR: Pak, M. I.; Lukin, Yu. T.

TITLE: Spark counter for cosmic ray recording

SOURCE: Vsesoyuznoye soveshchaniye po kosmofizicheskomu napravleniyu issledovaniy kosmicheskikh luchey. 1st, Yakutsk, 1962. Kosmicheskiye luchy i problemy kosmofiziki (Cosmic rays and problems in cosmophysics); trudy soveshchaniya. Novosibirsk, Redizdat Sib. otd. AN SSSR, 1965, 271-275

TOPIC TAGS: cosmic ray measurement, radiation counter, spark chamber, calorimeter

ABSTRACT: The paper describes the design and experimental study of the efficiency of a large-area spark chamber operating simultaneously with an ionization calorimeter and photoemulsions. An analysis of the operating conditions produces the optimum values of parameters (including pulse voltage, pulse delay, and gap size) for the 23x30 cm² spark counter under consideration. Results show that 1) the counter efficiency does not depend on the electric field intensity alone, but also on other design parameters; and 2) a 23x30 cm² spark counter with a 1.5 mm gap can be used successfully in conjunction with ionization calorimeters for the study of high energy cosmic rays. "The authors thank A. A.

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09010064

L 4513-66

ACCESSION NR: AT5022839

Yenin and S. K. Vasilevskaya for continuous help during the construction and tuning up of the experimental device and the carrying out of the measurements." Orig. art. has: 1 formula and 5 figures.

ASSOCIATION: Institut yadernoy fiziki AN KazSSR (Institute of Nuclear Physics, AN Kaz-SSR)

SUBMITTED: 29Oct64

ENCL: 00

SUB CODE: AA , EM

NO REF SOV: 003

OTHER: 003


Card 2/2

L 27897-66 EWT(m)/FCC/T IJP(c)

ACC NR: AP5024642

SOURCE CODE: UR/0048/65/029/009/1719/1721

AUTHOR: Babayev, M.K.; Denikayev, R.Z.; Yemel'yanov, Yu. A.; Zhukov, Ye. I.; Lukin, Yu. T.; Murzin, V.S.; Khomenko, G.S.

ORG: none

TITLE: Fluctuation in the number of particles in an electromagnetic shower at 110 BeV /Report, All-Union Conference on Cosmic Ray Physics held at Apatity 24-31 August 1964/

SOURCE: AN SSSR. Izvestiya. Seriya fizicheskaya, v. 29, no. 9, 1965, 1719-1721

TOPIC TAGS: secondary cosmic ray, cosmic ray shower, electron, photon, iron

ABSTRACT: Electron-photon showers were investigated in an ionization calorimeter consisting of the following components in order from the top: 13 cm C, 3 cm Fe, 8 trays of ionization chambers each followed by 5 cm Fe, 2 trays of chambers with no absorber between, 1 cm Fe, 160 g/cm² C, 3 cm Pb, and two trays of chambers separated and followed by 2 cm Pb. Showers initiated by cosmic ray particles were regarded as electron-photon showers if they produced ionization in at least one of the two uppermost trays and no ionization in the two trays beneath the large carbon absorber. Of 334 electron-photon showers thus identified, 152 had energies between 100 and 200 BeV. The ionization versus depth curves for these showers were normalized to a primary energy of 110

Card 1/2

09012367

L 27897-66

ACC NR: AP5024642

BeV and averaged, and the average curve was compared with theoretical curves calculated for different assumed values of the radiation length in iron. Good agreement was obtained with the curve based on a radiation length of 12.6 g/cm^2 . This value of the radiation length in iron was confirmed by comparing the observed depth of maximum shower development with calculated values. The fluctuation (ratio of the mean square to the square of the mean) in the number of particles in the showers as a function of depth was compared with the calculated curve of N.M.Gerasimova (Zh. eksperim. i teor. fiz., 43, 500 (1962); 44, 240 (1963)). Good agreement was found at depths less than 23 radiation units, but at greater depths the observed fluctuations were much less than the calculated ones. In conclusion, the authors express their gratitude to Zh.S. Takibayev for valuable discussions. Orig. art. has: 1 formula, 3 figures, and 1 table.

SUB CODE: NP/ SUBM DATE: 00/

ORIG REF: 004/ OTH REF: 000

Card 2/2 1-0

ACC NR: AP7007077

SOURCE CODE: UR/0048/66/030/010/1602/1603

AUTHOR: Denikayev, R. Z.; Yemel'yanov, Yu. A.; Lukin, Yu. T.; Takibayev, Zh. S.; Khomenko, G. S.

ORG: none

TITLE: Probability of the recording of "Stars" by an ionization calorimeter /Paper presented at the All-Union Conference on Cosmic Radiation Physics, Moscow, 15-20 Nov 1965/

SOURCE: AN SSSR. Izvestiya. Seriyz fizicheskaya, v. 30, no. 10, 1966, 1602-1603

TOPIC TAGS: calorimeter, astrophysics, star, neutron, proton, alpha particle, deuteron

SUB CODE: 08

ABSTRACT: Upon interaction of nucleus-reactive particles with matter, there is not only formation of new particles but also fission of nuclei of the target, which is accompanied by the emission of low-energy neutrons, protons, deuterons, and α -particles: i. e., formation of so-called "starts." The ionization produced by strongly ionizing particles of the stars is added to that due to electrons of the shower and measured, together with the latter, in an ionization calorimeter. On the basis of experimental data obtained on an instrument of the ionization calorimeter type, in which iron was used as an absorber, the contribution of stars to ionization was estimated at $\sim 10\%$ of the ionization due to the nuclear shower. Orig. art. has: 2 figures and 3 formulas. [JPRS: 39,658]

Card 1/1

LUKIN, Yu. V., inzh.; MAKSAKOV, V. D., inzh.

Using impulse generators in welding low-alloy and low-carbon
steels with UONI-13 electrodes. Rech. transp. 17 no. 12:46-48 D
'58. (MIRA 12:1)

(Electric generators) (Electric welding)

LUKIN, Yu.V., inzh.; MAKSAKOV, V.D., inzh.

Rapid-action electromagnetic voltage regulators used for
synchronous generators on ships. Sudostroenie 24 no.6:31-34
Je '58. (MIRA 11:8)

(Voltage regulators)
(Electric generators)

LUKIN, Yu.V., inzh.; MAKSAKOV, V.D., inzh.

SMB-1 powered sea-going barge. Sudostroenie 25 no.12:5-6 D
'59. (MIRA 13:4)
(Barges)

S/094/60/000/001/001/003
E194/E284

26.2190

AUTHORS: Lukin, Yu. V., (Engineer) and Maksakov, V. D.,
(Engineer)

TITLE: An electrical liquid level indicator type
УЗЖ-56 (UZZhEK-56)

PERIODICAL: Promyshlennaya energetika, 1960, No. 1, pp. 30-31

TEXT: Hitherto the liquid level in tanks has been measured by methods using floats, for example in combination with selsyns. These devices have a fairly complicated mechanical transmission, they are not very accurate and require a considerable number of cable cores. An electric indicator of liquid level type UZZhEK-56 is now being used which does not suffer from these defects. It is intended for remote measurement of the level of water, crude oil, fuel oil, diesel fuel and lubricant in tanks. The electrical pick-up responds to hydrostatic pressure by altering in resistance. The pressure of the liquid flexes a membrane. The resulting change in resistance alters the current flowing in the bridge network of the measuring device so that the instrument pointer is deflected by an angle which is proportional to the change in pressure. The instrument is designed for supply at 24 V, d.c. or a.c. and takes Card 1/2

S/094/60/000/001/001/003
E194/E284

An electrical liquid level indicator type UUZhEK-36

a current of 100 mA. The main error of the instrument over the temperature range +20 to +5°C does not exceed $\pm 4\%$ of the maximum reading. The pressure sensitive element weighs 2.8 kg and the measuring device 1.1 kg. Instruments are made for the ranges 0-3 up to 0-10 metres of water. These instruments are now in mass production and are widely used in the shipbuilding industry. There are 3 figures, 1 table and 1 Soviet reference.

Card 2/2

LUKIN, Yefim Yudovich, prof.; ZHUKOV, G.I., red.; PETROVSKAYA, L.P.,
red.izd-va; GOROKHOVA, S.S., tekhn.red.

[Zoology] Zoologiya. Moskva, Gos.izd-vo "Vysshaya shkola,"
1961. 376 p. (MIRA 14:4)
(Zoology)

LUKIN-BUTENKO, A. F.

Medical and sanitary training of conductors in railroad passenger cars Moskva,
Izd-vo instituta sanitarnogo prosveshcheniia, 1952. 62 p. (Ministerstva
zdravookhraneniia SSSR)

LUKIN-BUTENKO, A.F.

AID P - 3913

Subject : USSR/Medicine
Card 1/1 Pub. 37 - 17/21
Author : Lukin-Butenko, A. F., Kand. Med. Sci.
Title : Conference of Railroad Sanitary Inspectors on Water Supply
Periodical : Gig. i. san., 12, p. 48-49, D 1955
Abstract : Describes the work of the Conference at the Polyclinic of the Ministry of Transport, USSR, May 24-25, 1955.
Institution : None
Submitted : No date

ZHOROV, I.S., prof.; LUKIN-BUTENKO, G.A.; MIKHEL'SON, V.A.

Danger of regurgitation in modern anesthesia. Khirurgia 40
no.2:141-145 F '64. (MIRA 17:7)

1. Kafedra fakul'tetskoy khirurgii sanitarno-gigiyenicheskogo
fakul'teta (zav. - prof. I.S. Zhorov) 1-go Moskovskogo ordena
Lenina meditsinskogo instituta im. Sechenova i khirurgicheskoye
otdeleniye Tsentral'noy klinicheskoy bol'nitsy imeni N.A.
Semashko (nauchnyy rukovoditel' - prof. T.P. Makarenko)
Ministerstva putey soobshcheniya, Moskva.

MIKHELSON, V.A., LUKIN-BUTENKO, G.A.

"The prophylaxis of vomiting and regurgitation in anaesthesia
for acute surgery."

Report submitted for the First European Congress of Anesthesiology
Vienna, Austria 3-9 Sep 1962

GLEBOV, B.A.; LUKINA, A.A., kand. tekhn. nauk, dots., red.

[Transistor blocking oscillators in slave operation with saturable transformers] Poluprovodnikovyi zhdushchii blokirovannyi generator s nasyshchaiushchimsia transformatorom. Moskva, Mosk. energeticheskii in-t, 1963. 82 p. (MIRA 17:7)

LUKIN-BUTENKO, G.A.; MANEVICH, A.Z.; MIKHEL'SON, V.A.; LUKOMSKIY, G.I.;
TYUKOV, V.L.

Prevention and treatment of vomiting and regurgitation of the
contents of the stomach in anesthesia in emergency surgery.
Trudy Inst. im. N.V. Sklif. 9:233-239 '63. (MIRA 18:6)

1. Kafedra fakul'tetskoy khirurgii sanitarno-gigiyenicheskogo
fakul'teta I Moskovskogo ordena Lenina meditsinskogo instituta
imeni Sechenova.

DRACHEVSKAYA, R.K.; LUKINA, A.G.

Behavior of copper chlorides on copper amalgams during electrolysis.
Izv. AN Kazakh. SSR Ser. khim. no. 2:75-80 '60. (MIRA 14:5)
(Copper chloride) (Amalgams)

MAZOV, F.A.; LUKINA, A.I. (Yaroslavl')

Results of treating erythremia with radioactive phosphorus.

Med.rad. 7 no.6:42-44 Je '62.

(MIRA 15:8)

(ERYTHREMIA)

(PHOSPHORUS—ISOTOPES)

LUKINA, A.M.

Materials on the problem of sleep treatment in the psychiatric clinic.
Vop. psikh i nevr. no.3:306-315 '58. (MIRA 12:3)

1. Iz psikhiatricheskoy kliniki I Leningradskogo meditsinskogo instituta im. akademika I.P. Pavlova i II Leningradskoy psikhonevrologicheskoy bol'nitsy.

(SLEEP--THERAPEUTIC USE)

LUKINA, A.P.

Impregnation, Artificial

Increasing fertility in karakul sheep by impregnating with mixed semen. Kar. i zver.
5, no. 4, 1952.

Monthly List of Russian Accessions, Library of Congress, December 1952. UNCLASSIFIED.

LUKINA, A.P.

Correlation of sexes in domestic animals according to the theory of
vitality. Zh. obsh. biol., Moskva 14 no.6:452-460 Nov-Dec 1953.
(GLML 25:4)

LUKINA, A.P.,kand. sel'skokhozyaystvennykh nauk, dots.

Effect of helminths on reproduction in animals. Veterinariia
35 no.12:32-35 D '58. (MIRA 11:12)

1. Poltavskiy sel'skokhozyaystvennyy institut.
(Worms, Intestinal and parasitic) (Reproduction)

KRINICHNYY, G.G.; LUKINA, E.F.

Preparation of essential oil from dill. Masl.-zhir.prom. 27
no.3:42-43 Mr '61. (MIRA 14:3)

1. Zolotonoshskiy myatnyy zavod.
(Essences and essential oils) (Dill)

LUKINA, G. I., Cand Tech Sci -- (diss) "Analytic research into the formation of some surfaces applicable to instrument production." Moscow, 1960. 15 pp with charts; (Ministry of Higher and Secondary Specialist Education USSR, Moscow Machine-Tool Instrument Inst in I. V. Stalin); 150 copies; price not given; (KL, 17-60, 156)

LUKINA, G.P.; KAZAKOV, B.A.

A winter oasis. Priroda 53 no. 12:119-120 '64. (MIRA 18:1)

MARKOV, G.S.; LUKINA, G.P.; MARKOVA, L.I.; MOZGINA, A.A.

Parasites of reptiles in the Northern Caucasus. Uch. zap. Volg.
gos. ped. inst. no.16:99-105 '64. (MIRA 19:1)

1. Kafedra zoologii Volgogradskogo gosudarstvennogo pedagogi-
cheskogo instituta i kafedra zoologii Rostovskogo gosudarst-
vennogo universiteta.

LUKINA, K.K.

Stimulating heat in cows. Veterinariia 40 no.11:56 N 163.
(MIRA 17:9)

1. Glavnyy veterinarnyy vrach Sovkhoza "Kirzhachskiy",
Vladimirskoy oblasti.

Lukina, K.V.

Hard, thermoplastic resins. G. S. Petrov, N. V. Adrit-
nova, and K. V. Lukina. U.S.S.R. 162,968, June 25, 1960.
Aromatic hydroxyalkylamines, e.g. bis(hydroxyethyl)ani-
line and tetrakis(hydroxyethyl)aminodiphenylmethane,
are used for the production of thermoplastic resins.

M. Hozeh

LUKINA K.V.
PETROV, G.S., doktor tekhn.nauk, prof.; LUKINA, K.V.

Producing resins and plastics from methylol derivatives of
melamine and urea by means of amino alcohols. Khim. prom.
no.6:349-352 S '57. (MIRA 11:1)

(Resins, Synthetic)
(Plastics)

LUVINA, K.V., Cand Tech Sci -- (diss) "^{Manufacture of}Obtaining tars and
^{on the basis of}plastics based on the methylol derivatives of melamine and
urea with the ^{use}application of amino alcohols." Mos, 1958, 13 pp
with graphs (Min of Higher Education. Mos Order of Len Chem
Tech Inst im D.I. Mendeleyev) 150 copies (KL, 27-58, 110)

- 116 -

LUKINA, K.V., VYAZHEVICH, V.K.

Organizing polio vaccination in rural areas. Zdrav.Ros.Fed. 2
no.10:28-32 0'58 (MIRA 11:10)

1. Iz Novosibirskoy oblastnoy sanitarno-epidemiologicheskoy stantsii:
(POLIOMYELITIS)
(NOVOSIBIRSK PROVINCE--PUBLIC HEALTH, RURAL)

LUKINA, K.V.; PESIN, L.M.

New molding material melavoloknit. Biul.tekh.-ekon.inform.Gos.
nauch.-issl.inst.nauch.i tekhn.inform. no.9:21-22 '63. (MIRA 16:10)

VALERSHTEYN, I.; LUKINA, L., inzh.; SAF'YAN, B., inzh.

Cooperation is the pledge of success. NTO 5 no.11:19-20 N '63.

(MIRA 16:12)

1. Predsedatel' soveta Nauchno-tehnicheskogo obshchestva tipografii
"Pечатnyy dvor" imeni A.M. Gor'kogo (for Valershteyn). 2. Chleny
soveta Nauchno-tehnicheskogo obshchestva tipografii "Pечатnyy dvor"
(for Lukina, Saf'yan).

LUKINA, L.K.

Prophylactic measures in the practice of having one cow feed
several calves. Veterinariia 39 no.10:23-25 0 '62.

(MIRA 16:6)

1. Glavnyy veterinarnyy vrach sovkhosa "Kirzhachskiy",
Vladimirovskoy oblasti.

(Calves--Feeding and feeds)

LUKINA, L.K.

Plant introduction nursery of the Forest-Steppe Experimental Plant
Breeding Station. Biul. Glav. bot. sada no.51:31-35 '63.(MIRA 17:2)

1. Lesostepnaya opytno-selektsionnaya stantsiya dekorativnykh kul'tur,
pochtovoye Mashcherskoye Lipetskoy oblasti.

LUKINA, L. V.

Lukina, L. V. -- "The Problem of the Origin of the Stmospheric Electrical Field." Geophysics Inst, Acad Sci USSR. Moscow, 1956. (Disseration for the Degree of Candidate in Physicomathematical Sciences).

So: Knizhnaya Letopis', No. 11, 1956, pp 103-114

AUTHOR: Lukina, L.V., Candidate of Physico-Mathematical Sciences SOV-26-58-8-37/51

TITLE: The Polar Light of 11 February 1958 (Polyarnoye siyaniye 11 Fevralya 1958 goda)

PERIODICAL: Priroda, 1958, Nr 8, pp 117-118 (USSR)

ABSTRACT: A grandiose aurora borealis was seen far down into southern regions in the Soviet Union during the night from 10 to 11 February 1958. The southernmost point at which it was seen was the town of Genichesk at 46° north latitude. The aurora was accompanied by a heavy magnetic storm. The normal condition of the F₂ layer was disrupted and E_s layers became sporadically clearly marked at an altitude^s of 60 km. Among many watchers of the phenomenon was the deputy director of the Pechora - Ilych State Natural Preserve, Candidate of Biological Sciences O. Semenov-Tyan-Shanskiy.

ASSOCIATION: Nauchno-issledovatel'skiy institut zemnogo magnetizma, ionosfery i rasprostraneniya radiovoln /Moskva (The Scientific Research Institute of the Earth Magnetism, the ionosphere and Propagation of Radio Waves /Moscow)

1. Aurorae--USSR

Card 1/1

L 33319-66 EWT(1)/ECC GW

ACC NR: AP6011700

SOURCE CODE: UR/0203/66/006/002/0312/0321

AUTHOR: Fel'dshteyn, Ya. I. ; Shevnina, N. F. ; Lukina, L. V. 49
B

ORG: Institute of Terrestrial Magnetism, The Ionosphere, and Radio-Wave Propagation, AN SSSR (Institut zemnogo magnetizma, ionosfery i rasprostraneniya radiovoln AN SSSR)

TITLE: ¹²Polar auroras during magnetically disturbed and magnetically quiet periods

SOURCE: Geomagnetizm i aeronomiya, v. 6, no. 2, 1966, 312-321

TOPIC TAGS: aurora, magnetic field, magnetic field interference

ABSTRACT: The distribution of the frequency of the appearance of auroras at the zenith in relation to latitude for magnetically quiet and magnetically disturbed periods is derived on the basis of observational evidence from a network of cameras covering the entire sky during the years 1957 — 1959 and 1963 — 1965. The position of the zone of polar auroras on the night and day sides of the earth during magnetically quiet and magnetically disturbed periods is obtained and the presence of a noticeable asymmetry for both periods is shown. The cyclic changes in the frequency of the appearance of auroras during the night hours are discussed. The latitudinal distribution of the mean diurnal values of the frequency of appearance of polar auroras is derived. It is shown that the ratio between ΔT_{hor} at the stations Tromsø, Norway, and Tikhaya, and also the distribution of magnetic activity at Canadian stations,

Card 1/2

UDC 550.388.8

L 33319-66

ACC NR: AP6011700

agrees well with the constant of an oval current field situated in higher latitudes during the day and lower latitudes at night. Orig. art. has: 7 figures.

SUB CODE: 04 / SUBM DATE: 26Apr65 / ORIG REF: 014 / OTH REF: 028

Card

2/2 *OK*

ACC NR:AP7007830

SOURCE CODE: UR/0203/67/007/001/0177/0179

AUTHOR: Fel'dshteyn, Ya. I.; Lukina, L. V.; Shevnina, N. P.

ORG: Institute of Terrestrial Magnetism, Ionosphere, and Propagation of Radio Waves of the AN SSSR. (Institut zemnogo magnetizma, ionosfery i rasprostraneniya radiovoln AN SSSR).

TITLE: Auroras in the period of minimum solar activity cycle

SOURCE: Geomagnetizm i aeronomiya, v. 7, no. 1, 1967, 177-179

TOPIC TAGS: auroral property, solar activity, ~~appearance frequency~~, auroral zone, geomagnetic latitude, geomagnetic field, *aurora*, *solar cycle*, *astronomic observatory*

ABSTRACT: The frequency of occurrence and other properties of auroras during the minimum solar activity are investigated using photographs obtained during the IGYQS. The latitudinal distribution of the frequency of occurrence of auroras during the period from 1963 to 1965 is presented graphically for the winter months. Observation data obtained at Dixon and Chelyuskin stations shows that auroras occurring at mid-night are observed in the northern sky and south of the zenith, respectively. The oval auroral zone observed at night was located between 69° and 70° northern geomagnetic latitude. Auroras were observed

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UDC: 550.388.8

ACC NR:AP7007830

within the oval auroral zone regardless of the decrease of solar activity. The central line of the zone at night observed during the solar activity minimum was shifted toward the pole. At night, the oval zone was located between 68° and 71° geomagnetic latitude. The diurnal variation in the frequency of occurrence of auroras has one maximum at midnight at geomagnetic latitudes less than 68° and two maxima at midnight at 71° latitude. The observed maxima were attributed to the asymmetry of the auroral zone, which is nearer to the pole during the morning and evening than at midnight. The change of the position of the oval auroral zone in the IGY and the IGYQS was the same. Azimuths of stretched auroras changed markedly during the IGY as well as in the diurnal and yearly periods. Orig. art. has: 3 figures.

[EG]

SUB CODE: 0443/SUBM DATE: 16May66/ ORIG REF: 006/ OTH REF: 006

Card 2/2

MYSHLYAYEVA, V.V., kand. tekhn. nauk; OSOKINA, T.A., kand. tekhn. nauk; LUKINA, M.
N. inzh.; SAN'KO, T.M., inzh.

Using the FET-UNIIZ for determining calcium oxide and magnesium in materials
for cement production by phototrilonometric titration. Trudy MIITSement no.
19:107-112 '63. (MIRA 17:11)

RIVKINA, Ye.O., kand. med. nauk; KHOMICH, N.A.; LUKINA, M.A.

Immediate and late results following the application of corneal and scleral sutures in case of penetrating eye injuries.
Oft. zhur. 18 no.7:393-397 '63 (MIRA 17:4)

1. Iz Leningradskoy gorodskoy glaznoy bol'nitsy.

LUKINA, M. N.

✓ Influence of titanium dioxide on process of clinker formation. S. M. Royak, O. M. Astreeva, and M. N. Lukina. *Tsement* 21, No. 8, 12-14(1955). — In the presence of TiO_2 there is rapid decompn. of CaCO_3 but slight formation of clinker minerals resulting in as high as 30-37% free CaO . With formation of a liquid phase, TiO_2 dissolves and dilutes it; this causes rapid assimilation of CaO , and free CaO drops to 4% and even to 1%. Clinkers contg. TiO_2 are characterized by formation of larger crystals of minerals, particularly alite (120μ).

B. Z. Kamich.

MYSHLYAYEVA, V.V., kandidat tekhnicheskikh nauk; ^ILUKINA, M.N., inzhener.

Rapid determination of calcium oxide and magnesium by the trilonometric
method. TSement 22 no.5:23-25 S-O '56. (MLRA 10:1)
(Cement--Analysis) (Trilon B)

SOV-28-58-4-23/35

AUTHORS: Myshlyayeva, V.V., Nagerova, E.I., Candidates of Technical Sciences, and Lukina, M.N., Engineer

TITLE: Methods of Chemical Analyses of Portland Cements (Metody khimicheskogo analiza portlandtsementov). Revision of GOST-Standards 5382-50 (K peresmotru GOST 5382-50)

PERIODICAL: Standartizatsiya, 1958, Nr 4, pp 73 - 75 (USSR)

ABSTRACT: The revision of existing standards for methods of chemical analyses of Portland cements was necessary in order to include into the standards classical methods of analysis specified in practical use as well as new speed-up methods, such as trilonometric determination of magnesium oxide and photolorimetric determination of ferric and manganese oxide. The proposed modifications and additions to classical methods will provide data of higher accuracy relating to the chemical composition of Portland cements. The new speed-up methods will enable cement workers to control and evaluate rapidly the yield quality.

ASSOCIATION: NIITsement

1. Cement--Chemical analysis 2. Chemical analysis--Standards

Card 1/1

LUKINA, M.N., inzh.

Method of analyzing pyrite cinders. Nauch.sob.NIITSementa no.8:28-32
'60. (MIRA 14:5)

(Pyrites) (Cement)

LUKINA, M.N., inzh.

Methods for the chemical analysis of alumina and gypsum-alumina
cements. Nauch. soob. NIITsementa no.12:39-40 '61. (MIRA 15:7)
(Cement--Analysis)

SHTUTMAN, M.N.; SHUL'MAN, V.M.; MILYAVSKAYA, Ye.M.; FILIPPOVA, R.A.;
YEREMEYEVA, T.A.; LUKINA, M.N.

Spectra analysis of iron ore, agglomerate, and blast-furnace
slag in a "sounding" direct-current arc. Zav.lab. 28 no.11:1330-
1332 '62. (MIRA 15:11)

1. Magnitogorskiy metallurgicheskiy kombinat.
(Iron ores--Spectra) (Electric arc)

SHTUKOVSKAYA, L.A.; LUKINA, M.P.; SHITS, L.A.

Hygienic evaluation of water demineralized by Russian. Gig. i
san. 25 no. 12:93-95 D '60. (MIRA 14:2)

1. Iz Moskovskogo nauchno-issledovatel'skogo instituta sanitarii
i gigiyeny imeni F.F. Erismana Ministerstva zdravookhraneniya
RSFSR i Nauchno-issledovatel'skogo instituta plasticheskikh
mass.

(SALINE WATERS—DEMINERALIZATION)
(ION-EXCHANGING SUBSTANCES)

LUKINA, M.T., kand.khim.nauk; BORODINA, G.L., nauchnyy sotrudnik

The linear color method for the determination of carbon dioxide gas in the atmosphere. Gig. i san. 24 no.8:80-82 Ag '59.

(MIRA 12:11)

1. Iz Ural'skogo nauchno-issledovatel'skogo instituta Akademii kommunal'nogo khozyaystva imeni K.D.Pamfilova.

(AIR POLLUTION)

LUKINA, M.T.

Compost from urban waste materials. Nauch. trudy AKKH no.240
69-75 '64 (MIRA 18s2)

131 AND 132 (1958)

PROCESSES AND PROPERTIES INDEX

130 AND 131 (1958)

COMMON ELEMENTS

COMMON VARIABLES INDEX

10

ca

The synthesis of paraffins containing a quaternary C atom by means of Zn alkyls. A. I. Liberman, M. Yu. Lukina, O. P. Solovova and B. A. Kazanskii. *Doklady Akad. Nauk S. S. R.* 40, 70-83 (1943); *Compt. rend. acad. sci. U. R. S. S.* 40, 70-2 (1943) (in English).—Noller's observation (cf. C. A. 23, 1386) that a mixt. of EtBr and EtI reacts smoothly with a Cu-Zn couple to produce ZnEt₂ suggested the possibility of using higher alkyl bromides in the synthesis of neoparaffins. In one expt., a mixt. of BuBr and EtI (3:1 in molar proportions) in another expt., a mixt. of BuBr, EtBr and EtI (3:3:1 in molar proportions) was reacted with Zn by using N.'s procedure (cf. loc. cit.). The mixt. of Zn alkyls obtained in each case was reacted with Me₃CBr. Distn. of the 2 reaction mixts. so obtained resulted in isolation of the same reaction products, namely, 2,2-dimethylbutane (b_{ps} 49.05-0.25°, n_D²⁰ 1.3696, d₄²⁰ 0.6510) and 2,3-dimethylhexane (b_{ps} 105.6-5.9°, n_D²⁰ 1.3941, d₄²⁰ 0.6962). Purification of neoparaffins prepd. by reacting alkyl halides with Zn alkyls is conveniently carried out by prolonged shaking with cold concd. H₂SO₄ followed by distn. through a column having 23 theoretical plates. This procedure was used in working up the reaction product of EtMe₂CCl with ZnEt₂ to obtain 3,3-dimethylpentane (b_{ps} 85.4°, n_D²⁰ 1.3912, d₄²⁰ 0.6936) and also to obtain 3-methyl-3-ethylpentane (b_{ps} 117.2°, n_D²⁰ 1.4062, d₄²⁰ 0.7274) from the reaction product of MeEt₂CCl with ZnEt₂. J. W. Perry

MATERIALS INDEX

ASAC-51A METALLURGICAL LITERATURE CLASSIFICATION

SECTION SYMBOL	SECTION WITH ONE USE	SECTION ONE	SECTION ONE ONLY LIST
SA 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100	10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100	10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100	10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

LUKINA, M. Yu.

Isomerization of polymethylene hydrocarbons under influence of aluminum chloride.
 XV. Isomerization of methylcyclobutane. M. B. Turova-Pilak and M. Yu. Lukina
 (Lomonosov State Univ., Moscow). J. Gen.Chem. (U.S.S.R.) 18, 179-83(1948)(in Russian);
 cf. C. A. 42, 2582e. Ethylcyclobutane, b₇₄₈ 70-70.2°, n_D²⁰ 1.4014, d₄²⁰ 0.7269, was
 treated with AlCl₃ and the resulting isomerization was shown to yield 36-7% of
 methylcyclopentane and ethylcyclohexane; along with the isomerization there occurs
 alkylation of cyclohexane and polymerization of decompn.products of ethylcyclobutane
 which give fractions b.90-150° and 200-40°, resp. The hydrocarbon-AlCl₃ ratio
 was 3:1 and the spontaneous reaction was moderated by cooling, or the AlCl₃ was
 added slowly to keep the temp. either at 30-5° or 20°; the products were essentially
 identical in all cases. The products were examd. by optical methods (combination
 light scattering) for identification of the above-mentioned.components of the
 resulting mixts. G. M. Kosolapoff

LUKINA, M. Yu.

"Investigations in the Field of the Synthesis of Hydrocarbons of the Cyclobutane Series."
Thesis for degree of Cand. Chemical Sci. Sub 17 Feb 49, Inst of Organic Chemistry,
Acad. Sci USSR

Summary 82, 18 Dec 52, Dissertations Presented for Degrees in Science and Engineering in
Moscow in 1949. From Vechernyaya Moskva, Jan-Dec 1949.

Synthesis of hydrocarbons of the cyclobutane series. N. A. Kazanskii and M. Yu. Lukina. *Doklady Akad. Nauk S.S.S.R.* 65, 1937 (1949). $\text{C}_4\text{H}_6\text{Cl}_2$ (from C_4H_6 , $\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_2\text{Cl}$ and HBr , with Hg) with excess CH_3MgBr and Na gave 70% di-Et (3-chlorocyclobutyl)malonate, which, cyclized via the Na deriv., gave 10% di-Et

1-methyl-3,3-cyclobutanedicarboxylate, saponified, by alk. KOH to 97.0% free acid, which was decarboxylated at 210°C. yielding 0.5% 1-methyl-3-cyclobutanedicarboxylic acid (1). Passage of vapors of I and HCO_2H over MnO at 300°C. gave hydrazone, which was decompd. by the Küster procedure to 1,3-dimethylcyclobutane: *trans*-isomer, b.p. 57.4-7.6°, n_D^{20} 1.3390, d_4^{20} 0.7010, and *cis*-isomer, b.p. 58.5-8.0°, n_D^{20} 1.3033, d_4^{20} 0.7100. AcOH in the above synthesis gave above scheme, 1-methyl-3-ethylcyclobutane, which yielded, by the b.p. 87.0-8.1°, n_D^{20} 1.4005, d_4^{20} 0.7224, and *cis*-isomer, b.p. 91.0-1.0°, n_D^{20} 1.4045, d_4^{20} 0.7310. In the prepn. of the *ketone* always formed; it was also obtained from 1 over MnO at 415°C.; the product has 218-23° and does not give a cryst. NaHSO_4 adduct; its hydrazone yielded bis(3-methylcyclobutyl)methane as a stereoisomeric mixt., b.p. 178-84°, n_D^{20} 1.4402, d_4^{20} 0.8027.

G. M. Knecht

CA

10

Catalytic ring-opening hydrogenation of hydrocarbons of the cyclobutane series. B. A. Kazanskii and M. Yu. Lukina. *Doklady Akad. Nauk S.S.S.R.* 74, 263-6 (1950). On 10 ml. (3.05 g.) of a platinized C catalyst, at a space velocity of about 0.25 l./l. catalyst/hr., with H₂ passing at the approx. rate of 1 l./hr., hydrogenolysis of ethylcyclobutane (I) began at about 150°; at 250°, the ring is opened to the extent of 80%. With 1,3-dimethylcyclobutane, at 200°, ring opening attains 28%, and at 250°, 66%. With 1-methyl-3-ethylcyclobutane the extent of the reaction at 225° is 70-80%. Under the same conditions, at 250°, the cyclopentane ring is opened and hydrogenated only to the extent of 5%. By fractionation of the products of I, Et-CHMe and Me(CH₂)₂Me are produced in almost equal aunts., i.e. all C-C bonds in I are equiv. with regard to splitting, and the substituent exerts no orienting influence. Disubstitution, in the case of a 4-membered ring, has no inhibiting effect. N. Thou

CA

18

[illegible]

G. M. Kozlov

LUKINA, M. YU.

Chem. 048 V48

1-25-54

Organic Chemistry

1,3-Dibromobutane. B. A. Kazanski and M. Yu. Lu-
kina. *Akad. Nauk S.S.S.R., Inst. Org. Khim., Sintezy Org.*
Socdinensil, Sbornik 2, 70-80(1952). To 270 g. 1,3-butane-
diol was added over 5 hrs. at 10-15° with good stirring 1600
g. PBr₃; after stirring 1 hr. at room temp. the mixt. was
left overnight, heated 3 hrs. on a steam bath and poured
on ice. The org. layer, after washing with H₂O and Na₂CO₃,
gave 82-7% 1,3-dibromobutane, b_m 172-4°, b₁₀₀ 174.5-5.5°,
n_D²⁰ 1.5092, d₄²⁰ 1.7904. In the prepn. the stirrer must be so
arranged as to provide good dispersion of PBr₃ as it falls into
the soln. G. M. Kosolapoff

3

MF
7-28-54

KAZANSKIY, B. A., LUKINA, I. YU.

Esters

Synthesis of diethyl ester of 1-methylcyclobutane-2, 2-dicarboxylic acid. Dokl,
AN SSSR 83, No. 5, 1952
Institut Organicheskoy Khimii
Academii Nauk SSSR red. 30 Jan. 1952

SO: Monthly List of Russian Accessions, Library of Congress, August ²195~~8~~, Uncl.

LUKINA, M.Yu., kandidat khimicheskikh nauk [translator]; Rubinshteyn, A.M.,
professor, redaktor.

[Advances in catalysis and related subjects] Kataliz v organicheskoi
khimii. Perevod s angliiskogo M.IU.Lukinoi. Pod red. A.M. Rubinshteina.
Moskva, Izd-vo inostrannoi lit-ry, 1953. 318 p. (MLRA 7:7)
(Catalysis)

LEKINA, M. Yu

USSR

Synthesis of 1-methyl-3-propylcyclobutane. B. A. Kazanskii and M. Yu. Lukina (*Dokl. Akad. Nauk S.S.S.R.*, *Oldel. Khim. Nauk* 1954, 1724). To 31.5 g. 1-methyl-3-propylcyclobutane in 35 ml. EtOH was slowly added 32 g. 45% NaH, H₂O in 30 ml. EtOH, the mixt. refluxed 4 hrs., the solvent distd. (bath temp. 140°), and the cooled residue treated with some solid NaOH, yielding a layer of the hydrazine, bp 104-105°. This was pyrolyzed with solid KOH (fused in a Ag dish) and the distillate washed with H₂O, 50% H₂SO₄, and aq. NaOH, giving 57.1% mixed *cis-trans* isomers of 1-methyl-3-propylcyclobutane. Fractionation gave the *trans*-isomer, *b*_m 118.1-118.3°, *n*_D²⁰ 1.4088, *d*₄²⁰ 0.7270, aniline point 60.4°; and the *cis*-isomer, *b*_m 118.5-118.7°, *n*_D²⁰ 1.4121, *d*₄²⁰ 0.7453, aniline point 57.2°. 1-Methyl-3-propylcyclobutane semicarbazone mp. 130-132°.

G. M. Kosolapoff

Lukina, M. Yu.

✓ Synthesis and catalytic hydrogenolysis of 1,1,2-trimethylcyclopropane. B. A. Kazanskii, M. Yu. Lukina, and V. A. Ovodova (N. D. Zelinskii Inst. Org. Chem., Acad. Sci. U.S.S.R., Moscow). *Izvest. Akad. Nauk S.S.S.R., Otdel. Khim. Nauk* 1954, 879-81. To 90.6 g. $N_2H_4 \cdot H_2O$ was added slowly 98.1 g. mesityl oxide, and the cooled mixt. treated with solid NaOH; distn. of the org. layer gave 60-70% 3,5,5-trimethylpyrazoline, b. 158-60°. This (44.3 g.), 78.4 g. KOH, and 500 ml. triethyleneglycol were slowly heated to 220-35°, at which temp. the reaction began with distn. of 1,1,2-trimethylcyclopropane, the reacting mass being kept at about 255-60°. After the usual washing and distn. there was obtained 41.7% 1,1,2-trimethylcyclopropane, b. 53.6°, d. 0.6848, n_D 1.3862. This passed over Pt-C at 60° and underwent complete cleavage to 2,2-dimethylbutane. The result is the same at 100°. G. M. Kosolapoff.

(2)

LUKINA M. YU.

USSR/Physics - Spectral analysis

Card 1/1 Pub. 43 - 34/62

Authors : Aleksanyan, V. T.; Lukina, M. Yu.; Sterin, Kh. Ye.; and Kazanskiy, B. A.

Title : Combined diffusion spectra of certain hydrocarbons of the cyclobutane series

Periodical : Izv. AN SSSR. Ser. fiz. 18/6, 699-702, Nov-Dec 1954

Abstract : The results obtained in studying the spectra of nine cyclobutane hydrocarbons are analyzed. An interpretation of the various frequencies and their forms (trans-cis, etc.) is given. Two references: 1 USA and 1 USSR (1943-1954). Table.

Institution : Acad. of Sc., USSR, The N. D. Zelinskiy Inst. of Organ. Chem. and the Commission on Spectroscopy

Submitted :

LUKINA, M. Yu.

Synthesis of 1,2-dimethylcyclobutane. B. A. Kazanskii and M. Yu. Lukina (N. D. Zelinskii Inst. Org. Chem. Acad. Sci. U.S.S.R., Moscow). *Doklady Akad. Nauk S.S.R.* 94, 887-8 (1954).—Hydrolysis of di-Et 1-methylcyclobutane-2,2-dicarboxylate gave 80.5% 1-methylcyclobutane-2-carboxylic acid, $b_{m.p.}$ 199-203°, n_D^{20} 1.4402, d_4^{20} 1.0112. The acid chloride with $PhNH_2$ gave the anilide, m. 128.5-9.0° (from dil. EtOH). Passage of the mixt. of the acid and HCO_2H over MnO at 315° gave 59.8% 1-methylcyclobutane-2-carboxyaldehyde, $b_{m.p.}$ 122-6°, n_D^{20} 1.4298, d_4^{20}

0.8934; semicarbazone, m. 124.3-4.5°. Reduction of the hydrazone of the aldehyde according to Kishner's method gave 70.6% 1,2-dimethylcyclobutane. The *trans* isomer, $b_{m.p.}$ 58.8-6.9°, n_D^{20} 1.3893, d_4^{20} 0.7029, f.p. -123.5°, aniline point 52.0°, was sepd. by distn. The higher boiling fractions contained varying proportions of the *cis* isomer; these comprised only a small fraction of the total yield. The *cis* form is estd. to boil at 67-8°. G. M. Kosolapoff

USSR/Chemistry - Catalysis

Card 1/1 : Pub. 22 - 29/46

Authors : Lukina, M. Yu; Ovodova, V. A.; and Kazanskiy, B. A., Academician

Title : Catalytic hydrogenolysis of ethylcyclopropane and methylcyclobutane

Periodical : Dok. AN SSSR 97/4, 623-686, Aug 1, 1954

Abstract : Cyclopentane, methylcyclobutane and ethylcyclopropane were subjected to catalytic hydrogenation for the purpose of comparing the easiness of hydrogenolysis of three-, four- and five-membered hydrocarbon cycles. The break in the C-C bond for the three hydrocarbons was established at temperatures ranging from 50 to 250°. The trend in the rupture of the C-C bonds is distinguished by specific characteristics, which are explained in chemical formulas. Nineteen references: 10-USSR, 6-USA; 1-German; 1-English and 1-Dutch (1907-1953). Tables.

Institution :

Submitted : June 10, 1954

Lukina, M. Yu

Catalytic hydrogenation of hydrocarbons of cyclopropane and cyclobutane series. B. A. Kazanski and M. Yu. Lukina (N. D. Zelinskii Inst. Org. Chem., Acad. Sci. U.S.S.R., Moscow). *Kataliticheskoe Gidrirovaniye i Ustoychivost' Tsiklicheskikh Slozheniy*. Trudy Konf. 1955, 19-26. Hydrogenolysis over Pt-C at 250-300° of cyclopentane results in 3-63% rupture of the ring; at 250-60° 83-99% of methylcyclobutane is ruptured, and 100% of ethylcyclopropane is ruptured at 60-100°. At 225-50° 82-9% of ethylcyclobutane is ruptured; at 250° 95.6% of 1,3-dimethylcyclobutane is ruptured, at 225° 78% of 1-methyl-3-ethylcyclobutane is cleaved, and at 60° 100% of 1,1,2-trimethylcyclopropane is cleaved. Methylcyclobutane is cleaved equally at all C-C bonds. Ethylcyclobutane gave 2-methylpentane and hexane; ethylcyclopropane gave 2-methylbutane; 1,1,2-trimethylcyclopropane gave 2,2-dimethylbutane. Thus the C₃ ring is ruptured only in 1 place with H addn. at the most hydrogenated C atoms. Cyclobutane homologs are cleaved at all possible points.

G. M. Kosolapoff

gm. *Chernykh*

LUKINA, M. Yu.

Chem

Isomerization of ethylcyclopropane on silica gel under conditions of chroma-
tographic analysis. B. A. Kazanskii, V. T. Aleksanyan, M. Yu. Lukina,
A. I. Malyshev, and Kh. E. Starin (N. D. Zelinskii Inst. Org. Chem., Acad. Sci.,
Moscow). Izvest. Akad. Nauk S.S.S.R., Otdel. Khim. Nauk 1955, 1118-19.---Passage
of carefully purified ethylcyclopropane through a column with silica gel at 1.7°
(cooling jacket) gave a product which instantly decolorized Br water and had a
Raman spectrum indicative of the presence of 68% starting material, 12% cis-2-pentene,
17% trans-2-pentene and 3% 1-pentene. G. M. Kosolapoff

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Pm 8/2/5

LUKINA M. YU

USSR/ Chemistry - Organic chemistry

Card 1/1 Pub. 22 - 26/52

Authors : Kazanskiy, B. A. Academician; Lukina, M. Yu; Nakhapetyan, L. A.

Title : Dehydration of dimethylcyclobutylcarbinol

Periodical : Dok. AN SSSR 101/4, 683-686, Apr 1, 1955

Abstract : Experimental data are presented on the derivation of two olefine hydrocarbons, with four-membered ring, through the dehydration of dimethylcyclobutylcarbinol in heated state and the addition of concentrated H_2SO_4 . The entire dehydration-synthesis process and the hydrocarbon yields obtained are described. The results obtained were compared with those of other previous attempts to synthesize four-membered olefines and the findings are listed. Ten references: 5 Russian and Soviet; 4 USA and 1 Belgian (1905-1953). Diagram.

Institution : Acad. of Sc., USSR, The N. D. Zelinskiy Inst. of Organ. Chem.

Submitted : December 8, 1954

LUKINA, M. Yu.

USSR/ Chemistry - Hydrogenation

Card 1/1 Pub. 40 - 9/25

Authors : Kazanskiy, B. A.; Lukina, M. Yu.; Malyshev, A. I.; Aleksanyan, V. T.; and Sterin, Kh. Ye.

Title : Hydrogenation of isopropenylcyclopropane in the presence of Pd black

Periodical : Izv. AN SSSR. Otd. khim. nauk 1, 36-42, Jan 1956

Abstract : Experiments showed that the hydrogenation of isopropenylcyclopropane in an alcohol solution in the presence of Pd-black at room temperature and atmospheric pressure results in the addition of two hydrogen molecules to the propane and the formation of 2-methylpentane. It was found that the hydrogenation is followed by intermediate formation of 2-methylpentene-1 and 2-methylpentene-2. Isomerization of 2-methylpentene-2 into 2-methylpentene-1 and vice versa was observed under conditions identical to those of hydrogenation. Continuous agitation with reduced Pd-black produced no effect on the isopropenylcyclopropane. Ten references: 5 Russ and USSR, 4 USA and 1 Germ. (1912-1954). Tables; graphs.

Institution : Acad. of Sc., USSR, Inst. of Organ. Chem. im. N. D. Zelinskiy

Submitted : February 15, 1955

KAZANSKIY, B.A.; LUKINA, M. Yu.; MALYSHEV, A.I.; ALEKSANYAN, V.T.; STERIN, Kh. Ye.

Hydrogenation of isopropenylcyclopropane in the presence of platinum black. Izv. AN SSSR, Otd.khim.nauk no.9:1102-1108 S '56. (MIRA 9:11)

1. Institut organicheskoy khimii imeni N.D.Zelinskogo Akademii nauk SSSR i Komissiya po spektroskopii pri Otdelenii fiziko-matematicheskikh nauk Akademii nauk SSSR.

(Hydrogenation) (Cyclopropane)

Lukina, M.Yu.

Catalytic Hydrogenation of Isopropyl- and Isopropenyl-
cyclobutane B. A. Kazanski, M. Yu. Lukina, and L. A.
Nikolayev (N. D. Zelinskii Inst. Org. Chem., Moscow)
Izv. Akad. Nauk S.S.S.R., Org. Khim., Nov. 1956,
1274-6. Hydrogenolysis of isopropylcyclobutane over Pt/C
at 250° yields 80% 2-methylhexane and 70% 2,3-dimethyl-
pentane, showing cleavage at a site 1 C atom removed from
the side chain. Hydrogenolysis of isopropenylcyclobutane
at room temp. results simply in satn. of the double bond;
at 120° a trace of paraffin appears and at 250° the mixt. con-
sists of 30% 2-methylhexane and 70% 2,3-dimethylpentane.
G. M. Kosolapoff

3
Cyclobutane

DM

LUKINA, M. Yu.

KAZANSKIY, B.A.; LUKINA, M.Yu.; MALYSHEV, A.I.

Catalytic hydrogenation of isopropylcyclopropane and isopropenylcyclopropane in the vapor state. Izv.AN SSSR.Otd.khim. nauk no.11:1399-1404 N '56. (MLRA 10:3)

1. Institut organicheskoy khimii im. N.D. Zelinskogo Akademii nauk SSSR. (Cyclopropane) (Hydrogenation)